## APPENDIX A

18. (Amended) A method of treating cancer comprising administering to a host a first composition comprising 2-methoxyestradiol and a second composition comprising an agent that increases intracellular $O_2^-$.

37. (Amended) The method of claim [36] 18, wherein said cancer is a solid tumor.

38. (Amended) The method of claim [36] 18, wherein said cancer is a leukemia.

## APPENDIX B

1. A method of killing a cell comprising:
   a) contacting said cell with a first composition comprising an agent that increases intracellular $O_2^-$; and
   b) contacting said cell with a second composition comprising 2-methoxyestradiol.

2. The method of claim 1, wherein said cell is a cancer cell.

3. The method of claim 2, wherein said cancer cell is derived from a solid tumor.

4. The method of claim 2, wherein said cancer cell is a leukemia cell.

5. The method of claim 1, wherein said cell is a human cell.

12. The method of claim 1, wherein said agent that that increases intracellular $O_2^-$ comprises an arsenate.

14. The method of claim 1, wherein the administration of said first composition and said second composition is substantially concurrent.

15. The method of claim 1, wherein the administration of said first composition is subsequent to the administration of said second composition.

16. The method of claim 1, wherein the administration of said first composition is prior to the administration of said second composition.

17. The method of claim 1, wherein said first and said second compositions are combined in a single formulation.

18. A method of treating cancer comprising administering to a host a first composition comprising 2-methoxyestradiol and a second composition comprising an agent that increases intracellular $O_2^-$.

25. The method of claim 18, wherein said agent that that increases intracellular $O_2^-$ comprises an arsenate.

27. The method of claim 18, wherein said host is a human.

28. The method of claim 18, wherein the administration of said first composition and said second composition is substantially concurrent.

29. The method of claim 18, wherein the administration of said first composition is subsequent to the administration of said second composition.

30. The method of claim 18, wherein the administration of said first composition is prior to the administration of said second composition.

31. The method of claim 18, wherein said first and said second compositions are contained within a pharmaceutically acceptable composition.

32. The method of claim 31, wherein said pharmaceutically acceptable composition includes a pharmaceutically acceptable carrier.

33. The method of claim 31, wherein said pharmaceutical composition is formulated for oral administration.

34. The method of claim 31, wherein said pharmaceutical composition is formulated for parenteral administration.

35. The method of claim 31, wherein said pharmaceutical composition is formulated for administration by injection.

37. The method of claim 18, wherein said cancer is a solid tumor.

38. The method of claim 18, wherein said cancer is a leukemia.

40. A composition comprising 2-methoxyestradiol and a second compound that increase intracellular $O_2^-$.

45. The composition of claim 40, wherein said agent that that increases intracellular $O_2^-$ comprises an arsenate.

47. The composition of claim 40, wherein said composition is a pharmaceutically acceptable composition.

## ALLOWED CLAIMS

25. A cloning vector which expresses and secretes a soluble $V_\alpha$ or $V_\beta$ T-cell receptor variable domain, said vector comprising the following elements in the 5' to 3' direction, said elements which are operatively linked:

(a) a promoter DNA sequence;

(b) a leader sequence; and

(c) a DNA sequence encoding a $V_\alpha$ or $V_\beta$ T-cell receptor variable domain.

26. The cloning vector of claim 25, further comprising an inducible promoter DNA sequence.

27. The cloning vector of claim 25, further comprising a DNA sequence encoding a tag sequence, said tag sequence positioned 3' to the DNA encoding said T-cell receptor variable domain.

28. The cloning vector of claim 25, wherein the DNA encodes $V_\alpha$ T-cell receptor variable domain and $V_\beta$ T-cell receptor variable domain.

29. The cloning vector of claim 28, wherein the DNA sequence encoding the $V_\alpha$ T-cell receptor variable domain is 5' to the DNA sequence encoding the $V_\beta$ T-cell receptor variable domain.

30. The cloning vector of claim 27, wherein the tag is *myc* or *his*.

31. A eukaryotic cell transformed by the cloning vector of claim 25.

32. A method for expressing and secreting a T-cell receptor variable domain in a host cell, comprising the steps:

(a) culturing said host cell with a vector, said vector comprising the following elements in the 5' to 3' direction, said elements which are operatively linked:

(i) a promoter DNA sequence;

(ii) a leader sequence; and

(iii) a DNA sequence encoding a $V_\alpha$ or $V_\beta$ T-cell receptor variable domain; and

(b) inducing said promoter;

to produce a T-cell receptor variable domain.

33. The method of claim 32, wherein the promoter DNA sequence is an inducible promoter DNA sequence.

34. The method of claim 32, wherein the T-cell receptor variable domain is $V_\alpha$, $V_\beta$, $V_\gamma$ $V_\delta$ single chain $V_\alpha V_\beta$, $scV_\beta V_\alpha$, or $scV_\delta V_\gamma$.

35. The method of claim 32, wherein expression of the T-cell receptor variable domain is induced in a culture medium.

36. The method of claim 34, further comprising obtaining the expressed T-cell receptor variable domain.

37. The method of claim 36, wherein T-cell receptor variable domain is obtained from the culture medium supernatant.

38. The method of claim 36, wherein the expressed T-cell receptor variable domain is obtained by a process that includes an osmotic shock step.

39. The method of claim 36, further comprising purifying the T-cell receptor domain by affinity metallic resin chromatography.

40. The method of claim 39, wherein the metallic resin comprises $Ni^{2+}$NTA.

41. The method of claim 34, wherein the leader sequence comprises the pelB, ompA or phoA leader sequence.

42. The method of claim 41, wherein the leader sequence comprises the pelB sequence.

43. The method of claim 32, wherein said inducible promoter comprises the lacZ promoter and the inducer is isopropylthiogalactopyranoside.

44. The method of claim 32, wherein expression of the T-cell variable domain is induced by the addition of about 0.1 to about 1 mM of isopropylthiogalactopyranoside.

45. The method of claim 32, wherein the host cell is a eukaryotic cell.

46. The method of claim 32, wherein said vector is further defined as comprising a tag sequence, said tag sequence positioned 3' to the DNA encoding said T-cell receptor variable domain.

47. A recombinant T-cell receptor single chain variable domain α, β heterodimer produced by the method of claim 32.